REMARKS

This is in response to the Office Action mailed 6/11/2007. This response should obviate outstanding issues and make the pending claims allowable. Reconsideration of this application is respectfully requested in view of this response/amendment.

STATUS OF CLAIMS

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 6941521) further in view of Liu et al. (US 2004/0168119).

Claims 1-7, 9-17 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ferrari et al. (US 2003/0097357).

Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrari et al. (US 2003/0097357) as applied to claims 1-7, 9-17 and 19-20, and further in view of Tip et al. (US2003/0018603).

Claims 21-33 were previously withdrawn.

OVERVIEW OF CLAIMED INVENTION

The present invention, as per independent **claim 1**, provides for a system to order a plurality of nodes associated with entities in a document, said system comprising: (a) a node generator parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities; (b) a node grouper grouping said created plurality of nodes into a plurality of regions, each of said regions defining an area within a n-dimensional space, wherein n is greater than one; and (c) a formatter for formatting said plurality of regions for storage.

The present invention, as per independent **claim 11**, provides for a method for ordering a plurality of nodes associated with entities in a document, said method comprising: (a) parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities; (b) grouping said created plurality of nodes into a plurality of regions, each of said regions defining an area within a n-dimensional space, wherein n is greater than one; and (c) formatting said plurality of regions for storage.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 6,941,521) further in view of Liu et al. (US 2004/0168119). To establish a prima facie case of obviousness under U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The presently claimed invention, in independent **claim 1**, provides for a system to order a plurality of nodes associated with entities in a document, said system comprising: (a) a node generator **parsing entities in a document and creating a plurality of nodes that represent the entities and relationships that exists among the entities**; (b) a node grouper **grouping the created plurality of nodes into a plurality of regions, each of the regions defining an area within a n-dimensional space, *wherein n is greater than one***; and (c) a formatter for formatting the plurality of regions for storage.

With respect to claim 1, the Examiner erroneously argues that Figure 1 and column 3, lines 63-67 and column 4, lines 20-42 of Lin teach claim 1's feature of a node generator parsing entities in a document and creating a plurality of nodes that represent said entities and relationships that exists among said entities. Figure 1 of Lin, by Lin's own admission, is a flowchart used to **generate a graphical user interface (GUI)**" (see, for example, column 1, lines 63-65 and column 2, lines 53-67). Also, column 3, lines 63-67 and column 4, lines 20-42 of Lin merely teach a method for the conversion of an XML file to a DOM tree. Applicants are unsure how the Examiner is equating the generation of a GUI to Applicants' feature of **parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities**.

Further, with respect to claim 1, the Examiner erroneously argues that Figure 4 and column 5, lines 19-40 teach the feature of a node grouper **grouping the created plurality of nodes into a plurality of regions**, wherein **each of the regions define an area within an n-dimensional space, wherein n is greater than one**. Figure 4 merely illustrates a flow chart for creating an "intermediate data structure". A portion of the Examiner's citation is provided below:

> "For each object, a decision is made in a decision block 210 to ***whether that object corresponds to a group, a table, an address, a modifier, or a text field***..."

As can be seen from the Examiner's citation, Lin merely teaches a decision process determining if an object "**corresponds to a group, a table, an address, a modifier or a text field**". Applicants submit that such a decision to determine if an object corresponds to a group, a table, an address, a modifier, or a text field CANNOT be equated to **grouping the created plurality of nodes into a plurality of regions**, wherein ***each of the regions define an area within an n-dimensional space, wherein n is greater than one***. Applicants further assert that Lin fails to teach any **grouping** and also fails to teach **grouping nodes into a plurality of regions with each region defines at least a 2-dimensional space**.

Absent such features, Applicants respectfully assert that Lin CANNOT teach many of the features of Applicants' claim 1.

With respect to the "formatter" feature of Applicants' claim 1, the Examiner suggests that Liu teaches such a feature in paragraphs 52-53 and 57. However, Applicants respectfully assert that the formatter 218 of Liu is merely a report formatter for the creation of an expanded report. There appears to be no teaching or suggestion for **formatting plurality of regions of grouped nodes for storage**.

Absent such features, Liu CANNOT teach or suggest the features of Applicants' claim 1. Hence, Applicants respectfully assert that the combination of Lin and Liu CANNOT teach or suggest many of the features of independent claim 1. Therefore, Applicants respectfully request the Examiner to withdraw the 35 U.S.C. 103(a) rejection with respect to independent claim 1, and further respectfully requests allowance thereof.

The present invention, in independent **claim 11**, provides for a method for ordering a plurality of nodes associated with entities in a document, said method comprising: (a) **parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities**; (b) **grouping said created plurality of nodes into a plurality of regions, each of said regions defining an area within a n-dimensional space, *wherein n is greater than one***; and (c) **formatting said plurality of regions for storage**.

With respect to the rejection of independent claim 11, the Examiner uses the same citations as used in claim 1. Hence, the above-mentioned arguments substantially apply to independent claim 11. Hence, Applicants respectfully assert that the combination of Lin and Liu CANNOT teach or suggest many of the features of independent claim 11. Therefore, Applicants respectfully request the Examiner to withdraw the 35 U.S.C. §103(a) rejection with respect to independent claim 11, and further respectfully requests allowance thereof.

The above-mentioned arguments with respect to independent claims 1 and11 also substantially applies to dependent claims 2-10 and 12-20 as they depend from an allowable claim. Hence, Applicants respectfully request the Examiner to withdraw the 35 U.S.C. §103(a) rejection with regards to dependent claims 2-10 and 12-20, and further request allowance thereof.

REJECTIONS UNDER 35 U.S.C. 102(e)

Claims 1-7, 9-17 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ferrari et al. (US 2003/0097357). To be properly rejected under 35 U.S.C § 102(e), a reference must provide for all the limitations (i.e., system elements in case of a system claim and method steps in case of a method claim) of the claim being rejected. Applicants contend that the Ferrari reference fails to teach many of the features of claims 1-7, 9-17 and 19-20.

With respect to Applicants' pending independent claim 1, on page 9 of the Office Action dated 06/11/2007, the Examiner erroneously contends that "Ferrari teaches the node generator in figures 14A, B and C where **information of a document** is converted into ordered nodes (attributes and values) in a tree structure according to relationships amongst them". The Examiner appears to erroneously conclude that elements 112 and 114 can be equated to "nodes". By Ferrari's own admission in paragraph 96, elements 112 and 114 are NOT nodes, but merely correspond to "attributes" and "values", respectively, of a "taxonomy definition process". In paragraph 90 Ferrari further clarifies that "taxonomy definition is the process of identifying the relevant attributes to ***characterize documents***" and "classification is the process of associating ***terms with documents***" (emphasis added).

The Examiner also appears to erroneously conclude that elements 112 and 114 are created when "information of a document is converted into ordered nodes." However, Ferrari, in paragraph 91, contradicts the Examiner by clarifying that the structure shown in Figures 14A-C is formed as a result of the above-mentioned "**taxonomy definition process**" wherein "**collections of documents**" **are arranged into domains, and NOT formed, as the Examiner**

asserts, by converting a document into ordered nodes. **In other words, the taxonomy of attributes/values is created based on data obtained from collections of documents, and NOT based on "parsing said entities in said document"**. Ferrari further clarifies in paragraph 100 that the data is acquired from a "collection of documents" in a database and the "collected documents are formatted and parsed to facilitate further processing." Further in the same paragraph, Ferrari states that the "formatted and parsed documents are processed in order to automatically ***associate documents with terms***." Applicants assert that Ferrari merely teaches **associating a collection of documents with terms in a pre-existing hierarchy**, which is **NOT** the same as parsing entities in **a document and *creating* a plurality of nodes that represent entities and relationships that exists among said entities**. Hence, Applicants respectfully assert that the Ferrari reference fails to teach or suggest the features of pending independent claim 1.

With respect to Applicants' pending independent claim 1, on pages 10 of Office Action dated 06/11/2007, the Examiner erroneously contends that "Ferrari teaches the grouping of nodes in Figure 17 where the information of a document is grouped into nodes according to attributes and values". Applicants wish to emphasize that Applicants' "node grouper" feature **groups the created plurality of nodes (created from parsing a document) into a plurality of regions, with each region defining an area within an n-dimensional space with n>1.** By contrast, Ferrari in figure 17 merely re-emphasizes how a "**collection of documents**" (see element **222** which specifically mentions a collection of documents - **DOCS #1**, **#2**, **#3**, **#4**, **#5**, **#6**, **#7**, **#8**, **#9**, **#10**, and **#11**) are **associated with various attributes**. For example, in figure 17 "**DOCS #1**, **#4**" are associated with the attribute "**RED SOUTH AMERICA**" and "**DOC #4**" is

associated with the attribute "**RED CHILE**". It is clear that elements of Ferrari's figure 17 represent **attributes that are associated with a plurality of documents in a collection and NOT nodes representing entities in one document**. Further, there is no teaching in Ferrari's figure 17 for grouping nodes, as by Ferrari's own admission it **groups documents NOT nodes representing entities in a document**. It should be emphasized that by the Examiner's own admission on page 10 of Office Action dated 06/11/2007, Ferrari's paragraphs 91 and 103 merely disclose natural **grouping of documents** into domains and **grouping of sub-collection of documents** stored together to be retrieved at one time **NOT grouping of nodes representing entities in one document.**

Furthermore, paragraph 0258 of Ferrari merely teaches how master and slave servers are used to provide search and navigation results to a user, wherein a collection of materials is partitioned among multiple slave servers. **The term "multidimensional" in paragraph 0258 of the Ferrari et al. reference is used with respect to navigation of materials; whereas applicants' pending independent claim 1 uses the term "n-dimensional" with respect to regions that are created by grouping nodes of a document**. Hence, Applicants respectfully assert that the Ferrari reference fails to teach or suggest the features of pending independent claim 1.

With respect to Applicants' pending independent claim 1, on pages 10-11 of office action dated 06/11/2007, the Examiner further contends that "Ferrari teaches the formatting of materials and documents within the knowledge base". Applicants respectfully assert that Applicants' **formatter does NOT format "materials and documents", as the Examiner asserts, but**

formats a "plurality of regions for storage" where each of regions corresponds to a grouping of nodes in an n-dimensional space. Furthermore, on pages 10-11 of office action dated 06/11/2007, the Examiner contends that "the classification and value formats associate the items in the collection as disclosed in paragraph 21". The Examiner appears to erroneously conclude that the "Attribute:Value format" can be equated to Applicants' formatter of claim 1. By Ferrari's own admission in paragraph 90 **"taxonomy definition" is the process of identifying the relevant attributes to characterize documents, determining the acceptable values of those attributes, and defining partial order among terms (attribute-value pairs) and "classification" is the process of associating terms (attribute-value pairs) with documents**. The attribute-value pairs in the Ferrari reference are used for the **purpose of classifying documents** and these attribute-value pairs are represented in "Attribute:Value format", for example, Products:Movies and Director:Spike Lee. **The "Attribute:Value format" of the Ferrari reference is NOT the same as the "formatter" of Applicants' pending independent claim 1, which formats plurality of regions of a document for storage**. Hence, Applicants respectfully assert that the Ferrari reference fails to teach or suggest the features of pending independent claim 1.

Hence, based on the arguments provided above, Applicants contend that the Ferrari reference fails to provide for many of the features of Applicants' pending independent claim 1.

Independent claim 11 of Applicants' pending claims provides for similar features as independent claim 1. Hence, the arguments provided above with respect to claim 1 apply to the features of independent claim 11 and Applicants contend that the Ferrari reference fails to

provide for many of the features of Applicants' pending independent claim 11. The above-mentioned arguments with respect to independent claims 1 and 11, substantially apply to pending dependent claims 2-7, 9, 10, 12-17 and 19-20 as they inherit all the features of the claim from which they depend. Hence, Applicants' respectfully assert that pending dependent claims 2-7, 9, 10, 12-17 and 19-20 are allowable.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claims 8 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2003/0097357 (Ferrari) as applied to claims 1-7, 9-17, and 19-20 above, and further in view of U.S. 2003/0018603 (Tip). To establish a prima facie case of obviousness under U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Claims 8 and 18 of the applicants' pending claims depend from independent claims 1 and 11. Hence, the above-mentioned arguments with respect to independent claims 1 and 11, substantially apply to dependent claims 8 and 18 as they inherit all the limitations of the claim from which they depend. Hence, applicants respectfully assert that pending dependent claims 8 and 18 are allowable.

Applicants wish to note, however, that the Ferrari reference would not have been properly combined with the Tip et al. reference by one of ordinary skill in the art, as there would have been no teaching, suggestion, or motivation for allowing such a combination. Specifically, the **Ferrari reference relates to the field of information search and navigation systems**, whereas, the **Tip et al. reference relates to the field of object-oriented programming and merely teaches a method of programming instructions to construct a call graph**. They are **NOT** in the same field of hierarchical data structure as the Examiner asserts. Applicants respectfully contend that one of ordinary skill in the art would not have been able to combine specific features of Ferrari with features of Tip without a teaching, suggestion or motivation.

Furthermore, paragraph 0114 of the Tip et al. reference, merely teaches associating integers with each class (well known in the art of object-oriented programming) corresponding to a post-order traversal of the class hierarchy. There is NO mention in the citation or the Tip et al. reference in its entirety of associating post-order traversal numbers with a plurality of nodes, wherein these nodes are created by parsing entities of a document, a feature of Applicants' pending claims.

The Tip et al. reference in view of Ferrari et al. reference by themselves or in their entirety fail to provide for: i) parsing entities in a document and creating a plurality of nodes that represent the entities and relationships that exists among the entities; ii) grouping the created plurality of nodes into a plurality of regions, each of the regions defining an area within a n-dimensional space, wherein n is greater than one; and iii) formatting the plurality of regions for storage.

Furthermore, Applicants assert that since the primary reference, Ferrari, fails to teach the features of independent claims 1 and 11, it would be moot to argue that the combination of Ferrari and Tip teaches the features of dependent claims 8 and 18.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of Applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

This response is being filed with a request for extension of time. The Commissioner is hereby authorized to charge the extension fee, as well as any deficiencies in the fees provided to Deposit Account No. 50-4098.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact Applicants' representative at the below number.

Respectfully submitted,

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